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A Study of the Causes of Attrition among Adults on a Fully Online Training Course

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Abstract

An online course was piloted in an Institute of Technology in Ireland for the purpose of providing training in best practice in presenting to people with dyslexia. The course was delivered fully online with no required attendances and with no interaction between participants. None of the participants in the pilot of the course completed the course. This study applies a model developed by Chyung to focus on the possible causes of the attrition and examine means by which attrition can be ameliorated. The findings show that the sense of isolation attached to learning alone is a very significant factor which often has a negative effect on the persistence of the learner to complete the course of study. Strategies to reduce this isolation are suggested.

Keywords: online attrition, social learning, self-directed learning, learner persistence, peer learning.

Introduction

In a comprehensive 1999 study in the United Kingdom it is reported that Dyslexia occurs in about 4% of the population and that in Higher Education (HE) its incidence is of the order of between 1.2% and 1.5% (National working party on dyslexia in higher education, 1999). In Ireland Dyslexia is reported as affecting 8% of the population in general and up to 50% of Third level students with disabilities (Loftus, 2009).

To provide for staff development in this area an online training course was developed to educate college lecturers and other staff in a HE Institution in Ireland, in best practice in designing accessible documentation. The course consisted of six distinct lessons each containing the learning content interspersed with interactive quizzes which provided instant formative feedback. The training provided was fully online, with the course hosted on the Moodle virtual learning environment of the HE institution in question. Apart from the initial registration the only contact between the learner and the tutor was via email. There was no start date and the pace of learning was at the discretion of the learner. The initial group comprised of thirteen learners. The level of interaction with the course varied from none to significant with none of the participants actually completing the training course within the initial time frame. This qualitative research was an attempt to determine the reasons for the attrition level for the course and the means by which the structure of the course could be modified to reduce the attrition rate.

Student Retention

The question of the retention of students has been a timeless concern of educators at course, program or degree level (Berge & Huang, 2004). Mc Cubbin (2003) views this as being one of the major problems faced by HE. Tinto (1982) has quantified the percentage of students who drop out of traditional courses as holding constant at being between 40% to 45% over the last century. The view is commonly held that the attrition rate is higher in courses delivered online (Turner & Crews, 2005; Willging & Johnson, 2004; Moody, 2004; Ryan, 2002; Carr, 2000). Researchers report varying levels of attrition among online learners. Meister (2002) reports an attrition rate of 70% among adult learners whereas a more recent study undertaken in 2007 reports non completion rates of 21% in online classes and 16% in classes delivered in the traditional mode (Frydenberg, 2007). A study of Masters students at a national research university in the south eastern United States found that dropout rates for online courses were between four and six times greater than those in traditional courses (Patterson & Mc Fadden, 2009) while others report attrition rates varying from 18% to 80% (Tyler-Smyth, 2006; Flood, 2002; Mc Vay Lynch, 2001). Despite this the consensus in the literature is that the attrition levels among online programmes are significant (O'Hare, Pelliccione, & Kuzich, 2009).

In general terms Cross (1981) has classified the obstacles in organised education under the three headings, situational, dispositional and institutional. Situational barriers are those that relate to the individual's situation at a particular time and include issues such as time restrictions due to work or family commitments or a poor learning environment. Non-academic issues can be alleviated by the presence of strong support and social connections within the course (Hart, 2012). Dispositional barriers are as those personal beliefs, values, attitudes or perceptions that inhibit the participation of the learner in formal learning

activities and Institutional barriers are those resulting from the practices of Institutions which exclude or discourage certain types of learners. Kearsley (2002) offers the view that not all students are suited to online learning. Students lacking in self-discipline and initiative are unlikely to do well in online courses. Other students prefer the classroom experience to online learning. Furthermore there are certain subjects and topics which do not lend themselves to online delivery and he has also identified cultural barriers to it among groups who do not embrace technology on moral or philosophical grounds. There are also those who do not have the computer literacy to undertake an online course successfully. In a study of 314 students enrolled on various online courses Rovai (2002) found evidence of a significant relationship between classroom community and perceived cognitive learning. He offered the view that the greater the sense of community and perception of cognitive learning the greater the course satisfaction and the lesser the feeling of isolation which would possibly lead to a lower attrition rate.

The aspiration to achieve goals such as the achievement of an award such as a degree is also seen as a powerful motivator particularly when it is combined with personal goals, responsibility and an awareness of learning (Ivankova & Stick, 2005). The issue of isolation was also viewed as being an important factor with regard to student satisfaction with online courses and is often based on the physical separation between the tutor and learner (Daugherty & Funke, 1998). However Hara & Kling (2001) found that students were not overly concerned with isolation. The main focus of student angst was on the issues of technological problems and communications. Frankola (2001) expressed similar views reporting lack of time and motivation, poorly designed courses substandard or inexperienced instructors, lack of student support and problems with technology as the main reasons for their failure to complete the course. Morgan & Tam (1999) caution that on many occasions

the reasons for their attrition given by learners may be superficial as there may be a tendency among learners to protect their self-esteem. The issue of cognitive overload has been identified by Tyler-Smyth (2006) as a contributory factor to high dropout rates, particularly among first time online learners. In his conceptual model of attrition for education Kember (1989) also identified previous academic experiences as being a significant influence on a student's persistence on a course.

Many strategies have been proposed to combat attrition and encourage persistence. One strategy in particular that has influenced heavily how this research project was approached is that offered by Chyung (2005) which is detailed in Figure 1 overleaf. This is called the SIEME model and gets its name from the first letter of each step in the model.

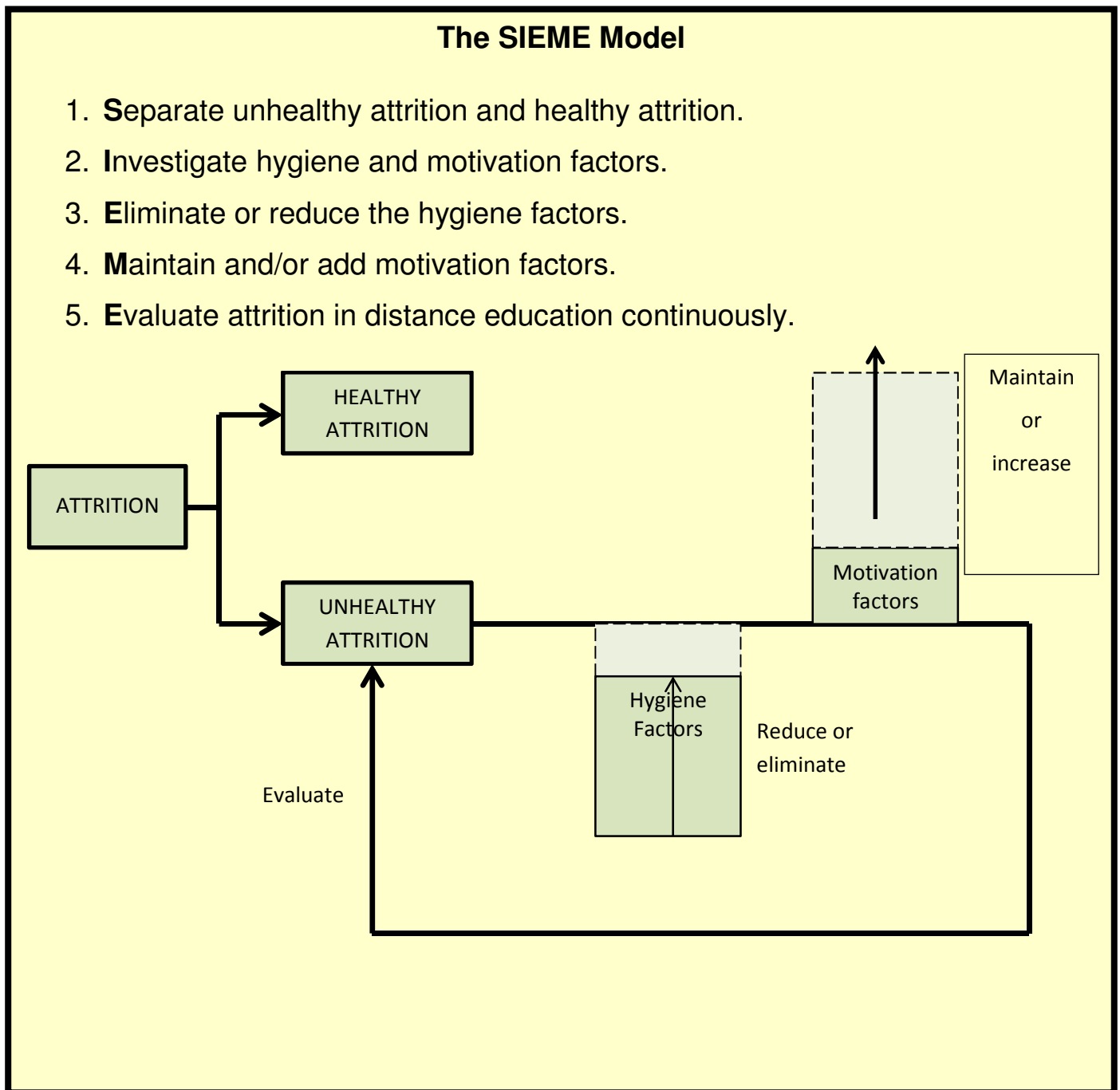


Figure 1 Chyung's SIEME Model (2005, p.5)

Chyung breaks down attrition into two categories which are classified as “healthy” attrition and “unhealthy attrition”. Healthy attrition is that which results when a student finds that the course or programmes is not aligned with their aspirations. She argues in this case that

attrition is inevitable and in certain cases should be encouraged giving as an example those “that might have misjudged their educational goals” before they enrolled on an online course (Chyung, 2005, p.2). On the other hand she notes that unhealthy attrition manifests itself through student complaints about poorly designed instruction and poor quality of instructors or lack of student support services.

The first step in the SIEME model is to separate the unhealthy attrition from the healthy while the second step calls for an in-depth investigation of the symptoms of unhealthy attrition. Chyung who used the motivation-hygiene factor theory (Herzberg, 1966) as the theoretical basis for investigating data from seventeen asynchronous online courses found that the main hygiene factors related to the instructors participation level and instructional directions/expectations while the main motivational factors were related to the learning content, the instructors teaching methods and styles, the instructor’s subject matter expertise and the types of learning activities. The third step in the SIEME model involves the elimination or reduction of the hygiene factors.

According to the SIEME model the reduction in the effect of the hygiene factors does not necessarily lead to an increase in motivation of students rather it will lead to a lessening of dissatisfaction. Chyung (2005) stresses the importance of dealing with hygiene factors before implementing new motivational factors as the effects of serious hygienic factors would override any benefits to be accrued from motivational factors. She states that once the development of motivation-hygiene factors has occurred it is essential for the HE Institution” to remove, or improve the condition of, hygiene factors potentially contributing to unhealthy attrition” (Chyung, 2005, p.2). The fourth step in the SIEME model is therefore the implementation of new motivational factors. The final step is the continual evaluation of

attrition ensuring that hygiene factors are not ignored and that all changes including very subtle ones are monitored for their effect.

The role of the instructor is seen as critical in the modelling of effective online teaching. Berge (1995) has categorised the conditions necessary for successful online tutoring into the following four areas, pedagogical, social, managerial, and technical. The managerial role involves the need for the tutor to be able to effectively manage, setting agendas, objectives, timetables and procedural rules and decision making norms. The technical role requires that the technology is made as transparent as possible so that the learner may concentrate on the task of learning. He stresses that there is no requirement for one individual to take on all the roles and in most scenarios this is the case. He also views as being critical among the pedagogical conditions the need for the tutor to facilitate learning, concentrating discussions on critical concepts, principles and skills. From a social point of view the promotion of togetherness and teamwork among the group is regarded by him as being crucial to the success of any conferencing activities. Workman & Stenard (1996) see the development of interpersonal relationships with peers, tutors and staff as being of great importance. They noted that students found that by developing interpersonal relationships they were more at ease in that they were able to measure their progress and compare it to their peers. They also believe that further reassurance is gained by the realisation through social interaction that many of the student's misgivings, frustrations and problems are common to many of their peers. When asked why this was so, students responded "that the personal contact with the faculty, staff, and peers not only was a pleasant experience at the time, but also helped them through their other work as well" (Workman & Stenard, 1996, p. 5). There is also evidence that students who integrate socially come to terms more easily with their academic demands (Kember, Lai, Murphy, Siaw, & Yuen, 1992).

Following a comprehensive review of the relevant literature, Angelino *et al.* (2007) identify four strategies for combatting attrition as being:

1. student integration and engagement
2. a learner centred approach
3. learning communities
4. Accessibility to online student services

Mechanisms for enhancing these four strategies have been gathered and have been presented in tabular form. The table is reproduced in full and is presented in Figure 2 below.

Strategies to Reduce Attrition	Rationale
<i>Student Integration and Engagement</i>	
Initiate contact with student via phone call.	Early and frequent contact with students is critical.
Conduct a pre-course orientation.	Establishes a foundation for the learning environment for all students. Assess each student's pre-existing knowledge, cultural perspectives, and comfort level with technology to be used in class.
Facilitate informal online chats through the course website.	Encourages spontaneous interactions among students and faculty that may build positive relationships and the foundation for learning communities.
<i>Learner-Centred Approach</i>	
Begin courses with "Virtual Icebreakers" to stimulate communication.	Opens the lines of communication with students as early as possible.
Post your introduction and encourage students to post their introduction.	Allows all participants an opportunity to learn more about each other (student to student and instructor to student).
<i>Learning Communities</i>	
Develop group projects and assignments that encourage students to develop relationships with other members of the learning community so together they can explore existing knowledge and expand their	Learning communities may help students overcome physical separation, feeling of isolation, lack of support, and feeling disconnected. Students that engage in the learning process with their cohorts may

knowledge base together.	develop a sense of community thus reducing attrition levels.
<i>Online Student Services</i>	
Provide online access to a variety of services including assessments, educational counselling, registration, technical support, study skills assistance, career counselling, library services, students' rights and responsibilities, and governance.	Focuses on the learner's needs; not just, what is easy. Online students may have similar needs for assistance and resources as traditional students.
Student government meetings on campus should be made available in electronic format.	Provides online education students an opportunity to participate in student governance as traditional students.

Figure 2 Strategies to Reduce Attrition

(Angellino, Keels Williams, & Natvig, 2007, p.10)

Angellino *et al.* have identified these strategies from the literature reviewed in their study. They cite research which justifies the use of techniques such as faculty imitated contact via phone calls, the provision of pre course orientations and the utilisation of informal online chats as devices which will augment the integration of and engagement with students. The need to open early lines of communication is seen as critical to a learner centered approach based on constructivism as is the need for the tutor to get to know the participants knowledge levels and their level of competence and familiarity with technology. The need to overcome physical separation and the felling of disconnectivity which sometimes is part of online courses is viewed as critical in the development of collaborative learning. Relationships can be developed by the timely use of the strategies outlined.

There are other strategies proposed which may help the instructor alleviate attrition in online courses. Where available the use of analytical tools such as logs should be used by the instructor to track the amount of time spent by students on content pages and resources. The

information gained from this can be used to advise students on their participation. This also helps identify students who are not interacting and allow for an early intervention to encourage them to do so (Morris & Finnegan, 2008). The following section will describe the course and the manner of its delivery before moving on to detail the methodological approach taken in this study.

The Course

The training course was delivered fully online and consisted of six separate lessons which were hosted on the Moodle VLE of a HE Institution. The lessons were developed in PowerPoint and published using the Articulate Studio suite of resources and generally consisted of information augmented by links to relevant external resources. Instant formative feedback was provided through the use of online quizzes which were regularly interspersed within the lessons. The final assessment consisted of the learners self-assessment of a teaching resource designed in accordance with the principles learned during the course by applying a provided template.



Figure 2 Collage of Screenshots taken from Course Resources

The first lesson consisted of an introduction which was made available to potential students prior to enrolment and contained all relevant course information. This information included details of the learning outcomes as well as who the course was suitable for. The structure of the course and mode of delivery as well as the estimated duration of the course and assessment details were provided. The second, third, fourth and fifth lessons contained different elements of the syllabus with the sixth lesson providing training on the use of the self-assessment template. The course was structured in such a way that each lesson was independent of each other and could be taken in any order with the exception of the sixth lesson which required the fifth as a pre requisite lesson.

The delivery of the course was fully online with the control of learning lying completely with the learner. The reason for this was to allow the learners to schedule their learning within their own particular lifestyles and timetables and control the pace of their learning. As a result there were no classes of either the traditional or online types. The interaction between the course coordinator and the student was deliberately designed to be minimal. However an online forum was provided to allow a facility for interaction between students on the course.

The training course was advertised as part of staff development week in the host institute. Information on the course was provided in a flier sent to all staff which contained a link to the first lesson containing the information module. A presentation including a call for participants in the training course also featured in the Learning & Teaching showcase to staff within the Institute. Prospective participants registered their interest and were then contacted and provided with further information and details. All of the participants were academically qualified to Honours Degree level with many also qualified to Masters and Doctorate level. The participants were then allowed to commence the course. There was very little interaction between the learner and the course coordinator. It was anticipated that the course required between ten and fifteen hours of learning and for the initial cohort a twelve week limit was imposed for the purposes of this research. No certificate or award was granted on the completion of the course.

Conceptual Approach and Methods

The approach used was the phenomenological method of qualitative research which is described as “the description of experiential meanings as we live them.” (Van Manen, 1990, p. 11). In this case the empirical phenomenological approach has been used which according

to Moustakas (1994, p. 13) “involves a return to experience in order to obtain comprehensive descriptions that provide the basis for a reflective structural analysis that portrays the essences of the experience”. Central to this approach are the descriptions of their own experiences provided by the participants. Semi-structured interviews were conducted with twelve participants in order to provide an insight as to why the attrition on the course was so high. Guide questions were formulated based on themes identified in the review of literature. The themes included computer literacy, healthy and unhealthy attrition, motivation, expectations, situational issues, integration and engagement. Questions of a general nature relating to the opinion of the participant on what did and did not work well within the course and how the course could be improved were included at the end of the interview to allow the participant a more open opportunity to express his or her views.

Findings

Computer literacy and previous online experience

Eleven of the twelve participants in the study classified themselves as having a good standard of computer literacy and were aware that the course was to be offered fully online. Half of the participants reported that they had previously completed an online course.

Pre course contact and information

The entire group expressed happiness with the level of contact and the information provided prior to the course commencing. There were no reported technological problems. While the majority agreed that the level of instructor participation during the course was adequate the view was expressed by some that there could have been more interaction with one participant stating “there was a need to have the tutor somewhere in the background engaging with the people” (Participant 10, 06:45).

Motivation for enrolling on course

In most cases the motivation was stated as a wish to learn how to improve the accessibility of their documentation and/or to gain information on the issues confronting students with dyslexia. It also emerged that there was a minority (25%) who enrolled on courses because they are interesting. This category of individual would typically sign up for a number of courses at any one time and complete very few. One participant stated that with one specific course provider he had “signed up for forty two particular courses and to date only completed six” (Participant 11, 02:15)

Situational issues

Increased work pressures were seen by most of the participants as having an effect on their ability to participate actively on the course. In many cases this was coupled with family pressures as many had young families requiring attention. Adequate access to broadband was also an issue. Forty two per cent of participants were also on formal courses of study which led to recognised accredited qualifications and these were prioritised over the course which was the subject of this study.

Motivation Factors

The responses to the question as to whether the course met the expectations of the participants were emphatic. All respondents expressed the view in very positive terms that their expectations of the course were very well met. Similar views were expressed regarding the learning content in that the content met their expectations as the course did as what participant expressed as doing “exactly what it did on the tin” (Participant 2, 01:30). The teaching methods met with the universal approval of the interviewees with the ease of access and navigation, the variety of media and the provision of visual cues receiving positive

comment. There was general agreement as to the effectiveness of the learning activities. The strategy of providing “the information in bite sizes” (Participant 6, 07:35), reinforced by interactive quizzes was seen by the participants as being particularly effective. In general the quizzes were viewed as being very successful in providing a level of interaction to the participants. The form of self-assessment utilised was considered effective and appropriate to the learning outcomes of the course. Regarding their satisfaction with their own achievement all of those who had engaged in any meaningful form with the course felt that their practices were enhanced as a result of what they had learned on the course and “had seen areas where they had improved” (Participant 5, 07:45).

Social factors

The majority of participants felt that the fact that they were studying on their own combined with the lack of a defined class group contributed negatively towards their efforts on the course. One participant referring to their undergraduate days stated that “In college yourself you always wanted to look over your shoulder to see what someone else was doing” (Participant 1, 04:48) and felt that reassurance and confidence was gained from this. Some of those who preferred being part of a class group expressed the view that the benefits of being part of a class were outweighed by the convenience of studying online and to one’s own timetable. A minority were equally categorical that their preference was to study on their own and offered the opinion that they worked better on their own. However in general the view was that some form of class group was desirable.

Reasons offered for not proceeding with or completing the course

The most common reason given was time due to “pressures of work” (Participant 7, 02:07) and increased work load. The course would have taken place against the backdrop of public service cutbacks in staff which meant an increased workload for staff. Family and personal

reasons were also offered as reasons for failing to complete the course in many cases as were other course commitments. While no one completed the course within the initial time frame one participant completed fully shortly after that when work pressures eased off.

What worked well within the course?

Participants felt that the design and layout of the course worked well. The technique of interspersing chunks of learning with online interactive quizzes was seen to be particularly effective. Many expressed satisfaction that the instant feedback provided by the quizzes allowed them to revisit areas they were having difficulty with. “The quizzes were good because they actually quizzed you on what you had learned beforehand and if you got one wrong you just went back and learned it” (Participant 5, 06:30) The ease of accessibility and the simple navigation interface was also referred to in a positive manner.

What worked poorly within the course?

The main issue referred to was the lack of social interaction. This was expressed in different ways such as responses which directly raised the issue (Participant 9, 07:30) such and others which referred to the desire for a class situation (Participant 3, 05:55). The suitability of the home environment for online learning was also questioned by some participants (Participant 4, 10:30). The lack of the provision of downloadable alternatives versions such as printed documents and PowerPoint presentations was also an issue with some participants.

What restructuring would make the course more appealing to the participant?

There was a wide variety of responses to this question however the main theme which developed referred in different ways to the development of some form of peer interaction and an enhancement of the involvement of the instructor. Strategies suggested to improve this area included the inclusion of an induction session where the class would meet with the

course tutor in a face to face classroom situation at the commencement of the course (Participant 3, 07:25). It was also suggested that the course tutor should record an introductory video which would help personalise matters and make the course more appealing (Participant 4, 12:05). It was also advocated that the tutor should be more involved in the course particularly in providing encouragement to participants. The provision of written and alternative formats of learning resources was also proposed as was the formal accreditation of the course to provide some form of recognised qualification or European Credit Transfer System credits towards a qualification (Participant 8, 06:17).

Discussion

Applying Chyungs (2005) framework, attrition is either categorised as healthy or unhealthy.

In two of the cases (17%), the attrition can be classed as healthy and the remainder as unhealthy. This is justified in that in the two healthy cases both participants enrolled but did not progress any further or interact with the course after realising from the information provided that they did not have the time. The other cases can be classified as unhealthy.

Having separated the healthy from the unhealthy the next step involves the exploration of the indicators of unhealthy attrition. Bearing in mind that in many cases the reasons provided by learners for their attrition may be superficial (Morgan & Tam, 1999), it is therefore important to delve further into the information gleaned from the interviews in an attempt to determine what the main causes are. On a superficial level the main reasons for the unhealthy attrition can be attributed to a lack of time due to an increase in workload. These can generally be considered as situational obstacles as classified by Cross (1981). However in answer to the question on how the participant would improve the course seven of the ten interviewees offered suggestions such as a face to face induction, compulsory interaction with a forum, and interaction with their fellow participants, which would lead to an increase in

socialisation. The suggestions which were offered were very similar to many of the strategies suggested by Angelino *et al.* (2007) as a means of combatting attrition. This would suggest that there was a degree of dissatisfaction among the participants due to lack of interpersonal relationships with peers and staff. This is backed up by the literature reviewed with Workman & Stennard (1996), Berge (1995) & Kember *et al.* (1992) all stressing the need for the development of a community of learning in such cases. The case that the high levels of attrition can be attributed to the lack of socialisation on the course is further strengthened by the fact that many of the other reasons proposed for attrition were not present. There was a high level of computer literacy among the participants and there was a general consensus that the course met expectations, with happiness being expressed with the learning content, activities and methods used. The assertion of all of the participants that the course met their expectations would suggest that the course was aligned to their goals and therefore their attrition was not healthy. One of the major causes of dissatisfaction, problems and issues with technology did not exist and the instructional directions were considered adequate.

Returning to Chyung (2005), all of the main hygiene factors have been ruled out with the exception of the social factors. This would then appear to be at variance with the studies carried out by Hara & Kilng (2001) and Frankola (2001) which found that isolation was not a major concern of online students. This can be explained within the context of the SIEME model in that there are a number of possible hygiene factors. The hygiene factors which were apparent in the cited studies are not a factor in the current study. In this case the course was designed to be standalone allowing the participant to study at their own pace with the minimal amount of contact with the tutor and other participants. While some of the participants were quite happy with the lack of social contact the majority were not of that

view. It is interesting to note that those who expressed happiness with studying alone were those who had progressed furthest towards completing the course.

Conclusions

While the sample size of the study is small, the fact that the attrition among the participants is very high suggests that there is an issue which needs to be addressed. One of the limitations of the study is that the participants all volunteered to take part in the course. There was no fee charged and no compulsion on them to complete the course. There was no incentive in the form of a qualification and neither was the successful completion of the course necessary from a professional or career viewpoint. The effects that these issues would have on the attrition levels within the course were not considered. The course was designed with independent learner in mind and with the control of the pace and time of learning as well as the content studied lying with the participant; the conclusions drawn from this study are within that context.

Clearly from the feedback given by the participants issues did not exist from the point of view of their computer literacy, the information provided, and contact with them, prior to the commencement of the course. Neither were there any issues with the learning content, methods, and activities nor were there any reported technological problems. The attrition was attributed in the main to pressure of work and lack of time. However all of the participants were aware in advance that the course would require between twelve to fifteen hours of learning over a twelve week period and the course was designed to incorporate a high degree of flexibility and learner control. There is no evidence that this estimation was incorrect. If it is to be accepted that this is correct and that the attrition is due to an increased workload or

other external factors then there is very little that can be done with the design of the course to combat this. Within the context of the SIEME model this has to be classified as healthy attrition.

The main motivational factors identified by Chyung included the learning content, methods and activities while the hygiene factors in general related to the instructors participation level and instructional directions/expectations. The analysis of the participant's responses showed that learning in isolation was a source of dissatisfaction to some and satisfaction to others. This is consistent with the SIEME model in that one issue can be both a motivational and hygiene factor.

The third and fourth steps of the SIEME model require the reduction or elimination of the hygiene factors and the maintenance or an increase of the motivation factors. The literature reviewed provides the strategies by which the sense of isolation can be eliminated. These include course induction, live webinars, compulsory forums, the posting of introductory videos or such like by the participants and the utilisation of group activities and tasks.

The use of these strategies will by their nature impose restrictions on the flexibility available to the participants in allowing them control of the pace and scheduling of their learning. It is possible that by utilising these strategies there will be a reduction in the overall attrition rate while those who prefer to learn alone may not participate in the course. Their attrition becomes healthy in this case.

The only way to validate any of the strategies is by incorporating them within the design of the course. This will be accomplished in the second offering of the course. Their success or failure will be evaluated by applying the final element of the SIEME model which is the

continual evaluation of the attrition and the monitoring of the effect of the changes. Only then will the relevance of socialisation to the levels of persistence on the course be fully realised.

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